

PATENT SPECIFICATION

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(54) LUMBAR SUPPORT MEANS

(71) I, THE SECRETARY OF STATE FOR DEFENCE, London, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statements:—

This invention relates to lumbar support means.

The majority of seats afford inadequate support at the lower lumbar region of a seat occupant. It is difficult to provide universally adequate support as the location and extent of the lumbar curvature vary from person to person.

Medical evidence shows that adequate support of a seated occupant at the lower lumbar region reduces the stresses which would otherwise be present on the vertebral supporting tissues and that excessive support may result in hyperextension of the lower spine which can cause permanent structural damage.

It follows that any support at the lumbar region of a seated person which provides only a fixed, arbitrary amount of support is likely to prove inadequate for the majority of users and the persistent use of such a support might prove harmful.

It is an object of the present invention to provide improved lumbar support means.

Lumbar support means according to the present invention for affording support at the lumbar region of a seated user and for location between a user's lumbar region and a support such as the back of a seat, is shaped to provide both support from the rear and lateral support to the user and is adjustable to vary both the thickness of the support means in the rearwards supporting direction and the degree of lateral support.

In a preferred embodiment lumbar support means comprises an upholstered pad having a base portion which is adjustable for thickness and conjoins two end wing portions which latter are supported for angular movement with respect to the base portion about their conjoined regions and

are adjustable to change their angular setting with respect to the base portion to vary the degree of lateral support.

A single adjustment may vary the effective thickness of the base portion and adjust the angular setting of the end wing portions.

An embodiment of the invention is illustrated by way of example in the diagrammatic drawings accompanying the provisional specification of which:

Figure 1 is a side view,

Figure 2 is an end view, and

Figure 3 is a pictorial view.

As shown lumbar support means comprises essentially a base portion 11 and two wing portions 12, 13, of generally U shape. The base portion 11 has a base plate 14 and a stiffening plate 15 which is bowed in transverse cross-section and is rivetted at 16 to the plate 14. The wing portions 12, 13 are flanged at their inner and outer edges 17, 17 and 18, 18 and are supported by hinges as at 19, 20 on the plate 14. The wing portion 12 carries a housing 21 enclosing a sliding block 22 which is in threaded engagement with a control rod 23 having a knurled adjustment knob 24. A length of webbing 25 is secured to the wing portion 13 at 26 and extends beneath the stiffening plate 15, passing through slots 27, 28 in the plate 15 and is secured to the block 22. A further length of webbing 29 is secured to the plate 15 at 30 and extends to and is secured to the block 22. Three lengths of webbing 31 are secured at their opposite ends to the wing portions 12, 13 and extend beneath two lengths of elasticised webbing 32 which are rivetted to the base plate 14 and extend transversely across it.

The webbing lengths 31 and 32 are under tension and are covered with a facing layer of foam rubber backed fabric which for the sake of clarity is not shown.

Adjustment of the knob 24 in one sense to move the block 22 towards the base plate 14 will result in the support taking up the shape shown in dotted lines at Figure 1 as the

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tension in the webbing lengths 31, 32 takes up the slack from the webbing lengths 25 and 29. Similarly, adjustment of the knob 24 in the other sense will tighten the webbing lengths 25 and 29 and move the wings 12 and 13 from the position shown in dotted lines to that shown in full lines at Figure 1.

It will be noted that the effective thickness of the support means can thus be varied simultaneously with a variation in lateral support as afforded by the wing portions 12 and 13.

Support means as disclosed may be left in a vehicle seat and adjusted by different seat occupants or may be transferred from one seat to another and adjusted as required.

Straps or other fastening means may be provided for securing the support means to a seat.

WHAT I CLAIM IS:—

1. A lumbar support means for affording support at the lumbar region of a seated user, the means being shaped to provide both support from the rear and lateral support to the user and adjustable to vary both the thickness of the support means in

the rearwards supporting direction and the degree of lateral support.

2. Lumbar support means as claimed in claim 1 and comprising an upholstered pad having a base portion which is adjustable for thickness, the base portion conjoining two end wing portions which latter are supported for angular movement with respect to the base portion and about their conjoined regions, and are adjustable to change their angular setting with respect to the base portion to vary the degree of lateral support.

3. Lumbar support means as claimed in claim 2, and having a single adjustment means for varying at the same time the angular setting of both end wing portions and the thickness of the base portion.

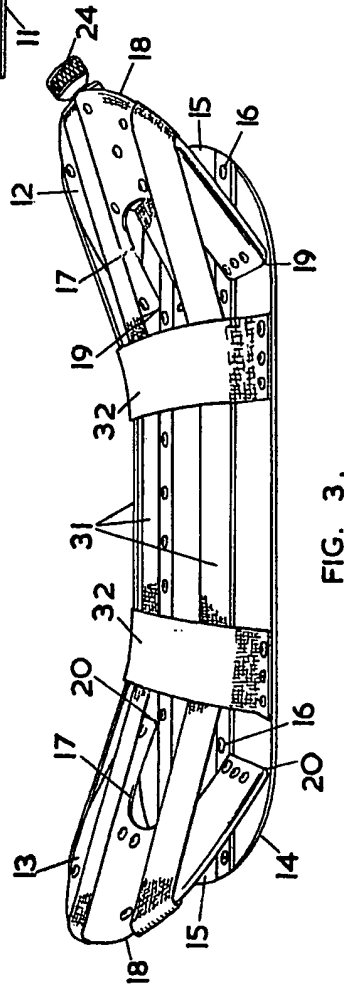
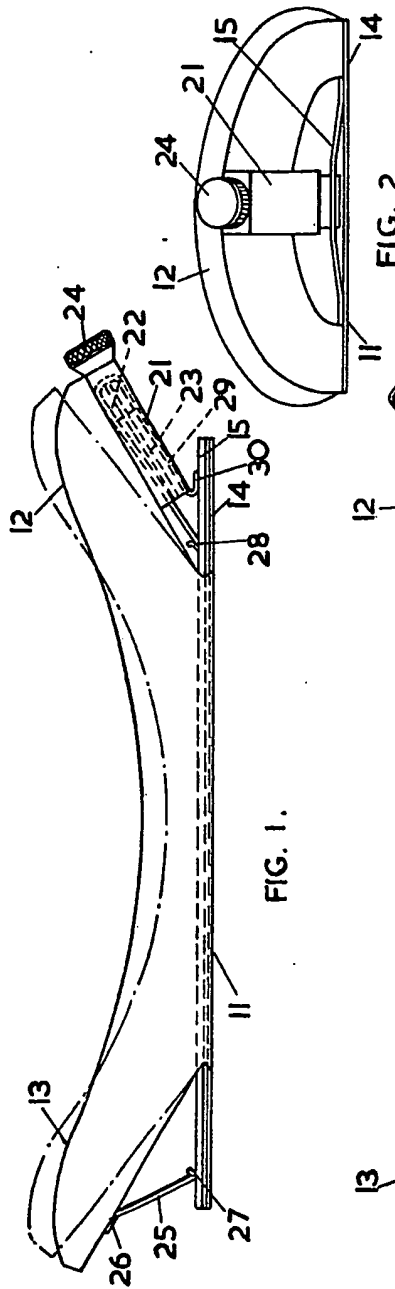
4. Lumbar support means as claimed in any one of claims 1 to 3 and having fastening means for securing the support means to a seat.

5. Lumbar support means substantially as hereinbefore described with reference to the drawings accompanying the provisional specification.

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